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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/674,451	09/30/2003	Takeshi Inao	P/1071-1600	4123
2352	7590	07/05/2006	EXAMINER	
OSTROLENK FABER GERB & SOFFEN 1180 AVENUE OF THE AMERICAS NEW YORK, NY 100368403			RACHUBA, MAURINA T	
			ART UNIT	PAPER NUMBER
			3723	

DATE MAILED: 07/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

SP

Office Action Summary	Application No. 10/674,451	Applicant(s) INAO, TAKESHI	
	Examiner M Rachuba	Art Unit 3723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15, 16 and 18-26 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15, 16 and 18-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 15 and 20 are finally rejected under 35 U.S.C. 102(b) as being clearly anticipated by Fivian, 4,142,333, as set forth in the Office action mailed 01 August 2005.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fivian, '333, as set forth in the Office action mailed 01 August 2005

7. Claims 18, and 21-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fivian, '333 in view of Rukavina et al, 4,478,009. '333 discloses the claimed invention, but does not disclose the detector comprising a sensor for detecting said contact position by detecting an electrical characteristic of the rotating driving unit, the electrical characteristic comprising at least one of a magnetic field and a current of the rotary driving unit. '009, in a grinding device, teaches that it is old and well known to control the infeed and contact of a grinding tool on a workpiece by detecting and monitoring the current load of the rotary driving unit of the tool, by detecting the electrical characteristic, and comparing it with threshold levels, and controlling the infeed of the tool based on the threshold level. It would have been obvious to one of ordinary skill in the art to have provided '333 with the sensor as taught by '009, column 1, lines 12-40, to provide a closed-loop automatic control to prevent the workpiece from being unevenly processed.

Further, regarding claim 21, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided the tool of 1333 with an abrasive grain cutting depth of 10 nm or less, dependent on the workpiece, the material of the workpiece, and the degree of material removal/surface polish desired, since it has been held that where the general conditions of a claim are disclosed in the

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prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233. Applicant has not defined any specific criticality to the size of the abrasive grain.

8. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rukavina et al, '009 in view of Fivian, '333. '009 does not disclose a driving unit for moving at least one of the rotating shaft and the workpiece in vertical, horizontal and transverse directions. '333, figure 1, teaches providing a driving unit to move the rotating shaft of the abrasive tool in vertical, horizontal and transverse directions. It would have been obvious to have provided '009 with the drive unit taught by '333, to allow the tool to access and process all surfaces of the workpiece, as shown in figure 1 and column 1, lines 10-32.

9. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rukavina et al, '009 in view of Fivian, '333 as applied to claim 18 above, and further in view of Grutzmachier et al, 4,851,763. '009 does not disclose that the sensor is a Hall sensor. '763 teaches that it is old and well known to use Hall sensors to measure current in drive devices. It would have been obvious to one of ordinary skill in the art to have provided '009 with a Hall sensor as taught by '763, column 1, lines 12-17, to provide a non-contact sensor to measure the electrical characteristic of the drive unit, "Current-measuring devices which permit a potential-free measurement of a direct or alternating current are, for example, non-contacting current converters which sense the magnetic field of the current being measured and convert it in accordance with its intensity into electrical signals, for example with Hall-effect sensors."

Response to Arguments

10. Applicant's arguments, see page 6 of Arguments, filed 19 June 2006, with respect to the rejection(s) of claim(s) 18 under 35 USC 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Rukavina et al, '009 and Grutzmachier et al, '763.

Applicant argues "Claim 15 recites "a driving unit for moving at least one of the rotating shaft and the workpiece in the vertical direction, horizontally in the longitudinal direction of the rotating shaft and in the transverse direction along the side face of the grooves*" Fivian does not have the claimed movement of the grinding wheel in three directions with respect to the workpiece". The examiner disagrees. In processing the gear teeth, Fivian must move the tool in a vertical direction, to bring the tool into contact with the surface, in the horizontal direction along the longitudinal direction of the rotating shaft and in the transverse direction along the side face of the tooth that forms the grooves between the teeth. Applicant has not required that the tool move along the longitudinal axis of the groove.

The examiner agrees with applicant's arguments concerning Numoto, and the rejections based on Numoto have been withdrawn.


Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M Rachuba whose telephone number is 571-272-4493. The examiner can normally be reached on Monday-Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Hail can be reached on 571-272-4485. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

M Rachuba
Primary Examiner
Art Unit 3723


6/28/07